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ABSTRACT

This brochure highlights several of the National Heart, Lung, and Blood Institute's (NHLBI) minority outreach programs. NHLBI's extensive research programs address some of the most significant health problems of Blacks, Hispanics, Asians, Pacific Islanders, and American Indians in the areas of heart and vascular diseases, lung diseases, and blood diseases. The brochure also describes available resources. A range of NHLBI-sponsored training programs work to increase the pool of minority biomedical researchers. Other programs work in partnership with minority academic institutions and medical organizations to stimulate minority student and faculty interest in the sciences and biomedical research. Various national health education programs put research discoveries into health practice through extensive partnerships with public health and community-based organizations. Through its Ad Hoc Committee on Minority Population, the NHLBI specifically directs outreach and prevention activities toward minority communities. Such programs include the National Minority Forum, the Obesity and Cardiovascular Disease in Minority Populations Program, the Stroke Belt Initiative, the Native-American Women's Project, and the "Healthbeat" Radio Network. Addresses and phone numbers for further information are included. (RAH)

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Minority Outreach: Research and Education

Making Investments for a Healthy Tomorrow

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U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
National Institutes of Health
National Heart, Lung, and Blood Institute

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Making Investments for a Healthy Tomorrow

Foreword

The face of America is changing. Minority groups (Blacks, Hispanics, Asians, Pacific Islanders, and American Indians) now make up more than one-fourth of the U.S. population. This means that agencies committed to improving the health of all Americans must consider issues related to cultural diversity in developing and implementing research, research training, health promotion, and disease prevention programs.

Improving the health status of minorities continues to be a major goal of the National Heart, Lung, and Blood Institute (NHLBI), National Institutes of Health. The NHLBI has conducted minority-specific research and education activities for several decades in relation to stroke and heart disease, smoking, obesity, asthma, tuberculosis, sickle cell disease, and high blood pressure. Indeed, the detection, treatment, and control of high blood pressure in minority populations are major NHLBI focuses.

The changing population dynamics have stimulated the NHLBI to intensify its research and education outreach efforts, in order to understand better the factors that predispose minority populations to higher morbidity and mortality rates from certain heart, lung, and blood diseases, particularly those research and education activities being implemented by the NHLBI that target chronic but preventable conditions. In addition, specific programs support and encourage minority students to consider and select science careers, and minority researchers to take advantage of training opportunities in biomedical and behavioral research. Such programs are critically important because they help increase the number of minority health professionals and scientists who can actively become involved in research and education activities.

The minority outreach efforts that the NHLBI supports—through Minority Outreach: Research and Education (MORE)—express the NHLBI's commitment to addressing the major factors that place minorities at greater risk of cardiovascular, pulmonary, and blood diseases than the rest of the population. This brochure highlights several of the NHLBI's MORE efforts and provides a glimpse of the research, research training and career development, and prevention and education activities that target minority populations.

Through such efforts, the NHLBI not only continues to advocate finding solutions to medical and health problems that affect minorities but also to underscore its leadership role in paving the way to a healthier future for all Americans.

C. Lenfant

Claude Lenfant, M.D.
Director
National Heart, Lung, and Blood Institute

National Heart, Lung, and Blood Institute

Introduction

Minority Outreach: Research and Education (MORE)
Making Investments for a Healthy Tomorrow

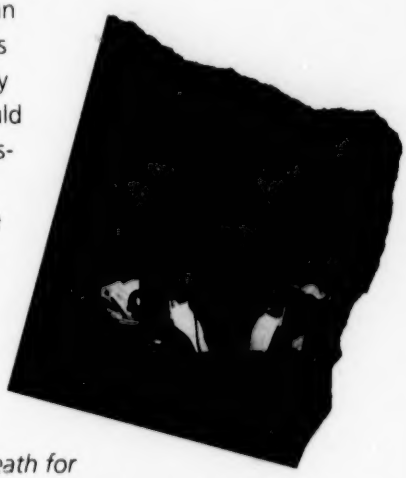
Historically, the National Heart, Lung, and Blood Institute (NHLBI) has conducted many programs and initiatives to help improve the health of minority populations. Today, the NHLBI continues to increase its outreach to the Nation's many cultural and ethnic groups, each having special needs and requiring a diversity of research programs. Through its expanding research and education activities, the NHLBI is working to reduce illness, disability, and deaths caused by heart, lung, and blood diseases within minority populations by:

- Funding research to increase our understanding of how and why such diseases as high blood pressure, heart disease, stroke, diabetes, asthma, and sickle cell anemia (and its manifestations) occur in minority populations;
- Supporting studies to identify the factors that cause minorities to suffer from these diseases at higher rates than the rest of the population;
- Using new knowledge to develop prevention and treatment strategies and testing them in rigorous scientific studies;
- Developing education programs to promote the use of effective prevention and treatment strategies for all racial and cultural groups;
- Developing and supporting research training and career development opportunities in biomedical research for people who have been underrepresented in these fields; and
- Developing avenues to disseminate the newly attained research knowledge and information on career development opportunities.

The NHLBI believes that these activities will lead to the development of effective disease prevention and treatment approaches that will ensure successful outreach efforts and herald a new era of progress.

RESEARCH

The NHLBI supports extensive research addressing some of the most significant health problems of Blacks, Hispanics, Asians, Pacific Islanders, and American Indians. The knowledge developed through this research should lead to improved health for minority populations. In addition, many of the findings should be helpful to other Americans who also have the diseases being studied. Highlights of the NHLBI's minority research activities can be divided into three groups: heart and vascular diseases, lung diseases, and blood diseases and resources.



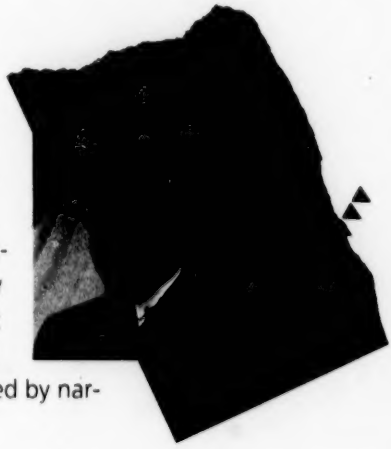
▪▪▪ Heart and Vascular Diseases

Heart and vascular diseases, the leading cause of death for Americans, affect minority populations disproportionately. The NHLBI is working to reduce this disparity by investigating physiological, biochemical, environmental, and genetic factors that contribute to excessive prevalence of illness and death.

Hypertension in Black Men and Women: Understanding the High Rates

The widespread occurrence of high blood pressure among blacks has propelled NHLBI research toward identification of the underlying physiological, biochemical, genetic, and environmental factors. Expected outcomes include techniques for identifying individuals at risk and interventions (like diet) for preventing or decreasing the severity of the disease.

Genetics of Atherosclerosis in Mexican Americans



This study is investigating the genetic mechanisms that contribute to atherosclerosis (thickening or narrowing of the arteries). About 1,400 Mexican Americans between the ages of 40 and 60 are participating. Expected results include methods to identify individuals who are susceptible to lipid disorders that predispose them to atherosclerosis. This knowledge can then be used to help prevent heart disease caused by narrowing and clogging of the coronary arteries.

The Strong Heart Study:
Cardiovascular Disease in American Indians

The Strong Heart Study is a major long-term research project designed to develop a better understanding of cardiovascular disease and its risk factors within diverse groups of American Indians living in three different regions. Morbidity and mortality surveys have been conducted, and physical examinations of 4,500 men and women ages 45 to 75 have been completed. Preliminary data reveal large differences in heart disease risk factors and disease rates among the three American-Indian communities. Researchers believe cultural factors may be partly responsible for these differences.

The Honolulu Heart Program

Men of Japanese ancestry living in Hawaii have a coronary heart disease mortality rate two to three times higher than those living in Japan. The men living in Japan have higher stroke mortality rates. The Honolulu Heart Program is a long-term study to try to explain these differences and identify the factors that lead to stroke, heart disease, and other health problems. A total of 8,006 men of Japanese ancestry living in Japan and Hawaii have participated. Risk factors for heart disease revealed in this study include high blood pressure, high blood choiesterol, glucose intolerance, obesity, and lack of exercise.

▪▪▪ Lung Diseases

Lung diseases, particularly asthma, are a major problem for minority populations. The NHLBI is working to determine which therapies and intervention methods best serve minority communities by studying the patterns of diseases, differential outcomes of therapies, and strategies to control diseases. Thus, the NHLBI is supporting researchers who are conducting studies to find effective and safe medications, educational strategies that work, and community organizations that may be able to remove the barriers to health care experienced by many racial and ethnic groups. A blueprint for this endeavor is being developed by a specially constituted panel of experts in the respiratory health of minorities.

Childhood Asthma
Management Program (CAMP)

Asthma is increasing in the United States, and Blacks are three times more likely to die of asthma than are Whites. In the CAMP study, researchers are comparing two different therapeutic approaches for the control of asthma. One-third of the children ages 5 to 12 with asthma who are participating in the study are Black. The

long-term effectiveness and safety of anti-inflammatory medications used to control asthma are being tested. The study should determine the effect of asthma treatment on many important aspects of growth and development. It may also answer questions about asthma changes during puberty and adolescence.

Interventions for Control of Asthma Among Black and Hispanic Children

Because elements in the home, school, and workplace environments often trigger asthma, interventions to alter these conditions can help prevent or reduce asthma in minority populations. Researchers from three inner-city areas and two rural areas are working to develop different approaches, including school and community-based programs, and to find the most effective and feasible strategies to control asthma among Black and Hispanic children. These studies are being conducted in Washington, D.C.; Baltimore, Maryland; New York City; Albuquerque, New Mexico; St. Louis, Missouri; and San Antonio, Texas. Effective models that can be used to control asthma in minority populations throughout the country are the anticipated outcome.

Longitudinal Analysis of Spirometry in Black Children

Is the increased respiratory disease in minority children related to the patterns of their lung development? This research project is seeking to answer this important scientific question by characterizing patterns of functional lung development as assessed by spirometry in Black children ages 3 to 13. It will then assess the relationship between these patterns and such factors as wheezing and lower respiratory infections prior to school entry, ages of the first and subsequent lower respiratory infections, and respiratory syncytial virus etiology of lower respiratory infections.

Prospective Study of the Pulmonary Complications of HIV Infection

Blacks and Hispanics have greater risk of developing human immunodeficiency virus (HIV) infection and suffering from associated lung diseases. This study is following a group that is 24 percent Black and 6 percent Hispanic in order to determine the incidence and types of pulmonary diseases associated with HIV infection and describe the course and outcome of these disorders.

Data analyzed after 18 months of followup suggest ethnic differences in disease patterns. Ethnic and socioeconomic factors have been found to influence the risk of respiratory disorders in HIV-infected individuals significantly in this study population, with bacterial pneumonia syndrome occurring significantly more frequently in people who inject illicit drugs, and more frequently in Blacks than in gay men (most of whom are White). In addition, case-specific mortality studies have shown the diseases associated with death in the study population are different for Blacks than for Whites. The study will continue through June 1994.

Pediatric Pulmonary and Cardiovascular Complications of Vertically Transmitted HIV Infection (P2C2 HIV)

HIV infection and AIDS are far more prevalent in Black and Hispanic children than in White children. Currently Black children comprise 59 percent of all AIDS cases passed from mother to child (vertically transmitted). Hispanic children are also affected disproportionately, accounting for 25 percent of all vertically transmitted AIDS cases. The P2C2 study is a 6-year, multicenter study that is collecting information on pulmonary and cardiac structure as well as growth and function of infants and children who are infected with HIV or born to HIV-infected mothers.

Of the 479 children enrolled in the study, 48 percent are Black, 34 percent are Hispanic, and 12 percent are White. The study will determine the type, incidence, course, and outcome of pulmonary and cardiovascular disorders in these children and is expected to answer many questions about the etiology and pathophysiology of HIV-associated lung and heart abnormalities.

▪▪▪ Blood Diseases and Resources

Sickle cell disease is a blood disease uniquely affecting blacks. The NHLBI supports studies directed at understanding the natural history and course of the disease and testing possible treatment modalities. Research is being conducted into mechanisms underlying sickle cell disease at several centers, and these centers are also developing therapies to reduce the debilitating effects of this hereditary condition, thereby improving the quality of the patients' lives.

The Cooperative Study of Sickle Cell Disease (CSSCD): Unraveling the Mysteries of Sickle Cell Disease

The CSSCD is a large-scale, multi-institutional study to improve the understanding of the natural history or clinical course of sickle cell disease. Beginning in 1979, over 4,000 patients were recruited, from newborns through those in the 7th decade of life. Researchers are currently following approximately 1,000 children

and adults with sickle cell disease to improve our understanding of how the disease affects patients over time. In addition, researchers are following the adults over the age of 35 to discover how sickle cell disease causes death. The continuation of the CSSCD, due to begin in 1994, will follow 466 children from the pediatric cohort who were identified as newborns and therefore represent the true natural history of the disease.

Comprehensive Sickle Cell Centers

Ten centers across the country conduct research and apply what is learned to improve the diagnosis, treatment, and prevention of complications caused by sickle cell anemia. These NHLBI-funded centers address a full range of research and patient services to reduce the illness and death caused by sickle cell disease. Having basic and clinical research, diagnosis, counseling, education, and treatment of patients within each center helps speed the application of new knowledge for the benefit of patients.

Fetal Hemoglobin Synthesis

In 1976, the NHLBI initiated research that has been the cornerstone for developing therapeutic approaches based on increasing the level of fetal hemoglobin in patients with sickle cell disease. Increasing fetal hemoglobin levels may reduce the symptoms caused by sickle cell disease. Hydroxyurea is one agent shown to increase fetal hemoglobin production, and preliminary reports of patient improvement are encouraging. The study described below will test the efficacy of hydroxyurea in treating sickle cell disease.

Multicenter Study of Hydroxyurea in Sickle Cell Disease

The use of hydroxyurea in sickle cell disease is being rigorously tested to see if hydroxyurea can reduce by 50 percent the crisis attack rate in approximately 300 patients with sickle cell disease. A crisis in sickle cell disease occurs because the sickle-shaped red blood cells are rigid and cannot flow through small blood vessels, thereby clogging them and preventing blood from reaching the tissue. Recurring crises, which are very painful and may require hospitalization, are the most disabling feature of sickle cell disease, interfering with education, job retention, and psychosocial development.

RESEARCH TRAINING AND CAREER DEVELOPMENT

The NHLBI is making a major investment in the training of minorities to increase the pool of minority researchers by providing unique opportunities for minorities to explore the benefits of careers in biomedical research. The NHLBI is also fostering partnerships with minority academic institutions and medical organizations by establishing programs to stimulate minority student and faculty interest in the sciences and biomedical research in the cardiovascular, pulmonary, and blood disease areas.

NHLBI Minority Institutional Research Training Program

This program awards research training grants to minority institutions to enable minority graduate students and postdoctoral fellows to participate in conducting research on heart, lung, and blood diseases.

NHLBI Short-Term Training for Minority Students Program

This National Research Service Awards Program gives minority undergraduate and graduate students 2- to 3-month training experiences to expose them to biomedical and behavioral research careers.

NHLBI Minority School Faculty Development Award

This innovative program is designed to encourage the development of advanced research capabilities of faculty at minority institutions. These faculty members are expected to serve as role models and stimulate the interest of students in researching heart, lung, and blood diseases.

The NHLBI Minority Access to Research Careers (MARC) Summer Research Training Program

The NHLBI has developed a 10-week summer research training program for MARC honors scholars to enable them to acquire research experience with NHLBI scientists. The program is

designed to encourage the graduate honors scholars to continue their training in the areas of cardiovascular, pulmonary, and hematologic diseases. The students participate in seminars, off-campus research experiences, and other special activities.

Minority Supplement Program

This program provides funds to ongoing research grants supported by NHLBI to enable principal investigators to hire individuals from high school students to faculty members to participate in research supported by NHLBI.

NHLBI Partnership Program Plan

This program provides students and teachers from local schools exposure to the NIH research setting. Students participate in field trips, attend scientific lectures, have access to scientific equipment, and are guided by mentors.

Sessions are provided to help science teachers improve their skills. These partnership efforts help to expose both students and teachers to scientific information relative to research in cardiovascular, pulmonary, and blood diseases.

In addition, NHLBI fosters partnerships with several medical organizations, including the Association for Respiratory Health in Minorities, the Association of Black Cardiologists, and the National Medical Association, to promote research and education opportunities. These partnerships, which also help expose minority students and faculty to scientific information relative to research in cardiovascular, pulmonary, and blood diseases, are sustained through internships, exhibits, and participation in scientific meetings and conferences.

PREVENTION AND EDUCATION

The chief goal of biomedical research at the NHLBI is to improve the health of all Americans by transferring research findings and scientific consensus to improve public health practice and the quality of life for patients. Once a solid science base is established, NHLBI must translate it into public health action. This is done largely through national health education programs that put lifesaving research discoveries into health practice through extensive partnerships with public health and community-based organizations. The national efforts include:

- The National High Blood Pressure Education Program

- The National Cholesterol Education Program

- The NHLBI Smoking Education Program

- The National Blood Resource Education Program

- The National Asthma Education Program

- The National Heart Attack Alert Program

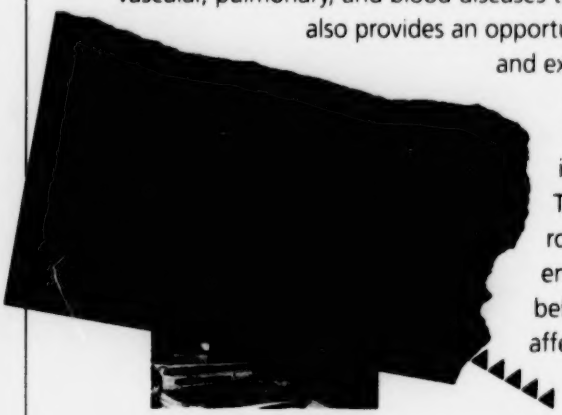
- The NHLBI Obesity Education Initiative

The NHLBI's national education programs have developed exemplary professional and patient education materials as well as award-winning public service announcements (PSAs) and community education campaigns to help increase awareness and promote behavior change in minority populations. The NHLBI also maintains an Ad

Hoc Committee on Minority Populations, a multiethnic group that provides input for NHLBI's minority education activities to ensure their cultural relevance and appropriateness to the needs of minorities. The NHLBI has mounted numerous outreach activities to help change physician practice, patient behavior, and public awareness in minority communities.

The National Minority Forum

The National Minority Forum is held every 5 years and provides an effective means of increasing awareness and understanding of the latest research on those cardiovascular, pulmonary, and blood diseases that disproportionately affect minorities. It also provides an opportunity to discuss the extent of the problems and exchange ideas about solutions. The forum uses a multidisciplinary approach in plenary sessions and workshops as well as informal poster sessions and roundtables. This atmosphere provides a healthy environment for participants to obtain an enhanced appreciation for the cultural, behavioral, social, and economic factors that affect the health of minority populations.



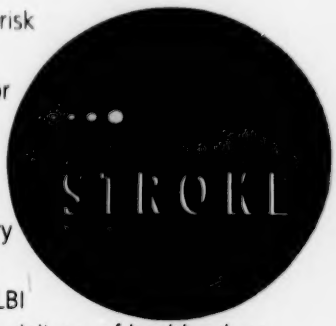
Obesity and Cardiovascular Disease in Minority Populations

Overweight is particularly prevalent in many minority populations (Blacks, Hispanics, American Indians, Alaska Natives, and Native Hawaiians), especially in minority women. For several decades, NHLBI has supported research on obesity's relationship to cardiovascular disease. In order to examine fully the relationship of obesity to risk factors and cardiovascular disease in minority populations, and to provide directions for further research, the NHLBI in conjunction with its Ad Hoc Committee on Minority Populations sponsored the Conference on Obesity and Cardiovascular Disease in Minority Populations in August 1990. The proceedings of the conference were published in the June 1991 supplement of the *American Journal of Clinical Nutrition*. Subsequent efforts have included exploration to develop public education messages on weight and obesity and the appropriate channels for delivery of those messages to minority populations. The primary goal of these efforts is to find ways to better educate minority populations about obesity's dangers and the need to prevent it.

The Stroke Belt Initiative

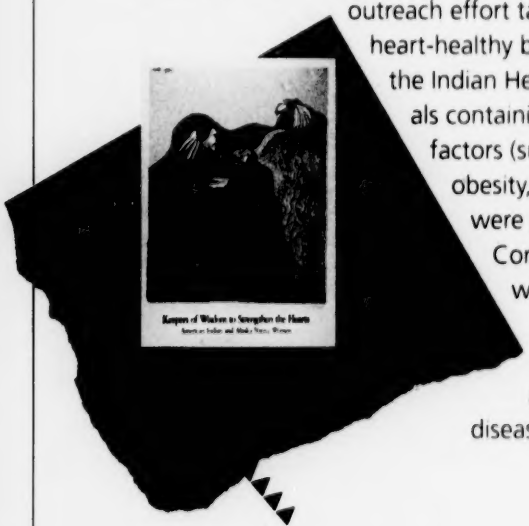
In 1980, 11 states had age-adjusted death rates for stroke that were more than 10 percent higher than the national average. All of these states, except Indiana, are in the Southeast and together, they form the "Stroke Belt." The higher death rate in the Stroke Belt exists for each sex-race group (Black and White men and Black and White women). However, Blacks have the highest risk of having a stroke and dying from it. The largest disparity between Blacks and Whites in the age-specific death and survival rates occurs at middle age.

In 1990, the NHLBI funded 11 pilot projects to reduce the risk of stroke in the Stroke Belt. State health departments received 1-year contracts to design and carry out risk factor reduction approaches in the community. The pilot produced successful approaches to gain community support and involvement; conduct inner-city, church-based risk reduction programs; recruit and train lay volunteers to carry out risk reduction activities in poor rural areas; and set up education programs in health department clinics. The NHLBI designed the Stroke Belt Initiative - Phase II to facilitate the delivery of health education interventions by State health departments, using the lessons learned from the pilot projects, to reduce the overall risk of stroke in the Stroke Belt. These programs must reach a large proportion of the population at high risk to produce an effect.



Native-American Women's Project

Minority women are critical audiences to reach with health messages. A unique outreach effort targeting Native-American women to promote heart-healthy behaviors was developed in collaboration with the Indian Health Service (IHS). Culturally sensitive materials containing messages about major cardiovascular risk factors (such as cigarette smoking, high blood pressure, obesity, and physical inactivity) and about nutrition were presented at the Wellness and Women IV Conference in Phoenix, Arizona. These materials will be disseminated to IHS hospitals and clinics throughout the United States to help educate patients about cardiovascular risk factors and proper lifestyle changes to prevent heart disease.



National Medical Association
Cardiovascular Health Outreach Project

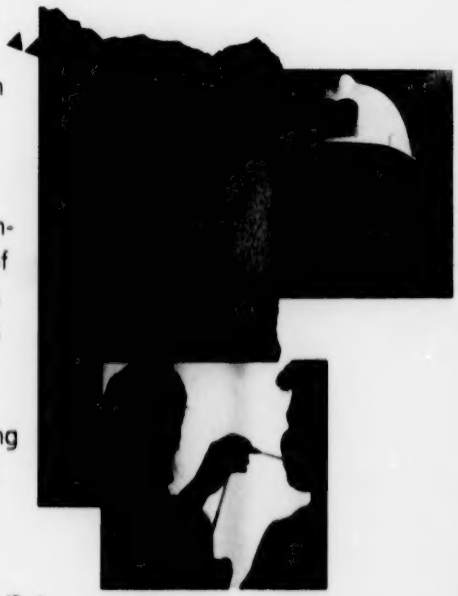
The NHLBI is working with the National Medical Association to develop and implement a pilot community-based cardiovascular disease prevention and education project for inner-city Blacks. Several professional and public education efforts are planned. The purpose of these projects is to develop community-based outreach efforts unique to the Black experience and to produce a model that can be replicated in other Black communities. The National Medical Association's national affiliate network gives the NHLBI an excellent opportunity to maximize its outreach to Black Americans.

Asthma Outreach Contracts for Controlling Asthma in High-Risk and Inner-City Populations

Asthma is a serious chronic disease affecting more than 12 million Americans. Because minority groups, particularly Blacks and inner-city populations, are at higher risk for asthma morbidity and mortality, several public and community health organizations as well as research organizations will be funded to conduct a variety of educational activities to improve the control of asthma among high-risk populations. The education strategies to be used include public and community coalition building, school-based education, special media opportunities, and professional and patient education strategies.

Clinical Opportunities for Smoking Intervention

The NHLBI Smoking Education Program (NHLBI SEP) worked with the medical staff at Interfaith Medical Center (IMC) to train 34 medical residents to counsel patients to quit smoking. IMC is a 650-bed, voluntary hospital serving the inner-city community of Bedford-Stuyvesant in Brooklyn, New York. Reflecting the community, about 80 percent of its patients and employees are Black. The medical residents were mostly foreign-born (76.5 percent).



The training consisted of two, 1-hour lectures, printed materials, and a 1½-hour simulated clinical interview session. To evaluate the impact of the training, the NHLBI SEP tested the residents before the training session and again 4 months later. The results showed that the residents' scores increased significantly for attitudes and beliefs, knowledge, usual practices with smoking patients, and overall score. These data provide

evidence that training increased the confidence and motivation of these residents to intervene with Black smokers. This has special significance because physicians are least likely to advise Black patients and those in lower socioeconomic status groups to quit smoking.

Targeting Minorities in Blood Donor and Marrow Donor Recruitment

The National Blood Resource Education Program (NBREP) has produced radio and print PSAs twice each year. Within each campaign there has been a focus on Blacks, attempting to increase their awareness of the need to give blood on a regular basis. The PSAs have been sent to Black radio stations and print media and have received very good placement. This year NBREP is conducting focus groups of Blacks and Hispanics to gather information about those groups' motives and barriers to blood donation. This information will be incorporated into a communications strategy document that will serve blood centers across the country in their recruitment efforts.

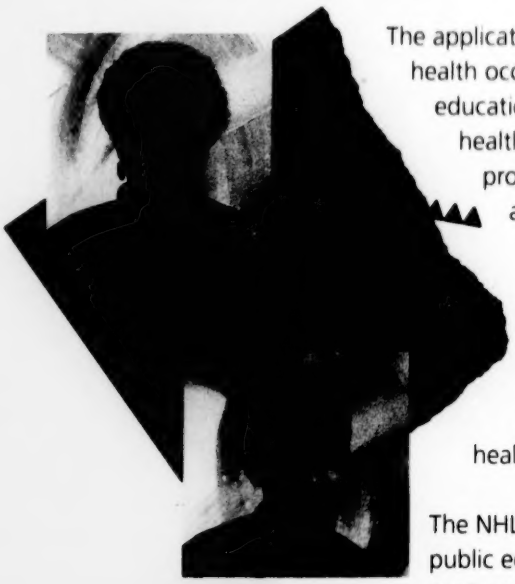
To help address the great need for minority bone marrow donors on the National Marrow Donor Program's (NMDP) national registry, the NBREP conducted a minority donor recruitment pilot project to help donor centers recruit Blacks and Hispanics. Recruitment materials produced in this project are being used by the NMDP donor centers across the country. The materials include radio and print PSAs, a 12-minute recruitment video, a guide for recruitment volunteers, and posters. In addition, a training workshop on recruiting minorities was conducted for the participating NMDP donor centers. Additional efforts are now underway to work with seven donor centers who have subcontracts with the NMDP to recruit Blacks, Hispanics, and Asians.

"Healthbeat" Radio Network

This project will provide 60-second "programs" three times a week to a network of radio stations across the country. Each program will focus on a health issue affecting Blacks, such as treating high blood pressure or recognizing symptoms of asthma. The programs will feature interviews with patients and health care providers.

TOMORROW'S HEALTH DEPENDS ON TODAY'S INVESTMENTS

The NHLBI is committed to developing programs that help Americans lead longer, healthier lives with improved quality of life. Knowledge that will improve minority health has been increasing as NHLBI-supported scientists apply their expertise to the study of health issues of diverse populations and to non-traditional settings—from the clinical laboratory to the inner city, the reservation, the barrio, the factory, and the small rural community.



The application of knowledge to improve minority health occurs through NHLBI efforts to disseminate educational programs and materials through health care providers, employer-supported programs in the workplace, community agencies serving minority populations, the mass media, and churches, synagogues, and other sites. Knowledge and opportunity also increase as minorities explore careers in the medical field, either as biomedical and behavioral researchers or as public health educators.

The NHLBI supports and conducts research, public education, and professional training programs to help all Americans lead healthy lives and to ensure that the best preventive and curative medical care is available to reduce the pain, disability, and premature death caused by diseases of the heart, lung, and blood. These activities reflect NHLBI's investments in Minority Outreach: Research and Education (MORE) —in order to improve the health of the increasing number of racial and ethnic minorities in the United States. Such investments will not only help to improve the health and quality of life of minority populations but will also have a significant impact on the health status of the population in general.

Doing more through MORE today means improvement in the health of future generations.

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